ANL/CFCT-C2019-19138

Argonne NATIONAL LABORATORY

Enabling System Technologies to Improve the Economies and Performance of Existing LWRs and Advanced BWR Plants: Improving Offgas System Performance

Final CRADA Report

Chemical and Fuel Cycle Technologies Division

ANL/CFCT-C2019-19138

Enabling System Technologies to Improve the Economies and Performance of Existing LWRs and Advanced BWR Plants: Improving Offgas System Performance

Final CRADA Report

prepared by
Candido Pereira
Chemical and Fuel Ccle Technologies Division, Argonne National Laboratory

Participants: GE-Hitachi Nuclear Energy America

December 15, 2020

This page intentionally left blank

Argonne NATIONAL LABORATORY

Non Proprietary

Final CRADA Report

For the Office of Scientific and Technical Information (OSTI)

CRADA Number: 2019-19138

CRADA Title: Enabling System Technologies to Improve the Economies and Performance of Existing LWRs and Advanced BWR Plants: Improving Offgas System Performance

CRADA Start Date 10/1/2019 – **End Date** 9/30/2020

DOE Program or Other Government Support

Program office: DOE Office of Nuclear Energy

Program manager name: Click or tap here to enter text.

Program manager phone or email: Click or tap here to enter text.

Participant(s)

Participant 1 name: GE-Hitachi Nuclear Energy Americas, LLC

Complete address: Wilmington, NC

Participant 2 name: Click or tap here to enter text.

Complete address: Click or tap here to enter text.

Participant 3 name: Click or tap here to enter text.

Complete address: Click or tap here to enter text.

Argonne National Laboratory

Argonne PI(s): Candido Pereira

Funding Table

To add rows, right-click in bottom row and select “Insert” “rows above”.

	Planned Funding	Actual Funding	In-Kind
Government	$100000	$100000	
GE-Hitachi	$	$0	$25000
Enter Participant 2 here	$	$	$
Enter Participant 3 here	$	$	$
Total	**$100000**	**$10000**	**$25000**

Nature of Work

Describe the research (summary of Scope of Work and principal objectives of the CRADA):

The project goal is to study adsorbent materials and adsorption conditions in order to develop recommendations to improve the current BWR off-gas treatment operations with respect to cost savings. ANL tasks included a literature survey on relevant information for the adsorption of radionuclides (e.g., Xe and Kr), including adsorption coefficients on various charcoals, the effect of radionuclide concentration and moisture, and alternative sorption materials; participate in meetings and teleconferences as needed; prepare reports and support efforts INL and other organization Team Members.

DOE mission area(s):
Energy and Environmental Science and Technology
Choose an item.
Choose an item.

Conclusions drawn from this CRADA; include any major accomplishments:
ANL developed a report covering off-gas system improvement and knowledge transfer and retention based on the literature review for use by the BWR Off Gas Working Group

Technology Transfer-Intellectual Property
Argonne National Laboratory background IP:
None

Participant(s) background IP:
Off-gas treatment system details, charcoal adsorption data

Identify any new Subject Inventions as a result of this CRADA:
None

Summary of technology transfer benefits to industry and, if applicable, path forward/anticipated next steps towards commercialization:
The off-gas system report developed by ANL will serve as a training tool to familiarize new BWR staff on the operations of the BWR off-gas treatment system based on literature information.

Other information/results (papers, inventions, software, etc.):
None

This page intentionally left blank

Chemical and Fuel Cycle Technologies Division
Argonne National Laboratory
9700 South Cass Avenue, Bldg. 205
Argonne, IL 60439

www.anl.gov

Argonne National Laboratory is a U.S. Department of Energy laboratory managed by UChicago Argonne, LLC